

present knowledge of the birds of Nebraska, and as such, with its included 'synopses,' must prove of great assistance to students of Nebraska ornithology, as well as an important contribution to faunal literature. —J. A. A.

Scott on the Inheritance of Song in Passerine Birds. — In two recent papers in 'Science'¹ Mr. Scott continues the relation of his interesting observations in regard to the growth, changes of plumage, song, and nest-building of hand-reared Rose-breasted Grosbeaks and Meadowlarks. On June 19, 1903, three young Grosbeaks, then about five days old, were taken from the nest and successfully reared by hand in the author's aviary, and were thus excluded from contact with wild birds of their own species. They had moulted by September into the usual fall dress of the species, and the second moult was completed early in February, this including the tail feathers but not the wing quills, which latter, however, underwent some change in color. Just what the change was is not stated, but as to the 'how' of the change Mr. Scott tells us, in italic type, "I am strongly inclined to the opinion that there is a physical change in the feather itself, which alters its appearance so far as color is concerned"; or, as he says again, the primaries "attain their brilliancy either by wear or by direct change in the color of the feather." As this is given as his "opinion," we naturally wait with interest for some *proof* that this opinion has some basis of fact, since the well-established facts thus far are quite opposed to such a belief.

Soon after the Grosbeaks, of which two were males and the other a female, had recovered from their second moult the males began to make feeble attempts at song, which presently increased in volume, and while extremely musical and possessing "the soft plaintive quality characteristic of the Rose-breasted Grosbeak," "no one would refer the *method* of song to the bird in question." In the second report on these birds, and referring to the third week in May, 1904, the song is described as "absolutely and entirely different from the song of the Rose-breasted Grosbeak as it is heard when wild out of doors." The two male Grosbeaks had then for some time been kept in cages adjacent to a Hardwick's Bulbul, and by the middle of May their songs "were so close an imitation of the insistent song of the Bulbul that it was difficult, when not looking at the birds, to tell which species was singing."

¹ The Inheritance of Song in Passerine Birds. Remarks on the Development of Song in the Rose-breasted Grosbeak, *Zamelodia ludoviciana* (Linnæus), and the Meadowlark, *Sturnella magna* (Linnæus). By William E. D. Scott. *Science*, N. S., Vol. XIX, No. 495, pp. 957-959, June 14, 1904.

The Inheritance of Song in Passerine Birds. Further Observations on the Development of Song and Nest-building in Hand-reared Rose-breasted Grosbeaks, *Zamelodia ludoviciana* (Linnæus). *Ibid.*, Vol. XX, No. 504, pp. 282, 283, Aug. 26, 1904.

The birds mated with females provided for them, and about the middle of May showed a desire to build nests, and for some time busied themselves with "abortive attempts at nest-building." They proved unable to successfully adjust the materials supplied to them, and were finally furnished with artificial nests. They availed themselves of these, soon completing a lining and beginning to lay. Each female laid a full complement, but the eggs were broken by the birds, apparently by accident in their continued efforts to complete the nest structure to their liking. Each female laid another set of eggs, which shared the fate of the first set. Mr. Scott summarizes his observations on this case as follows: "While I am not prepared to conclude that the Grosbeaks would not have built a nest if furnished with more commodious quarters and nearer like the condition of affairs that exist out of doors, I conclude that so far as nest-building in cages is concerned they are unable to accomplish anything. So far as the song is concerned, I believe that they inherit the call-notes of both pleasure and fear, but that the song of the males was an imitation of a song of a bird that strongly impressed them during the period when they were cultivating this secondary sexual characteristic."

The account of the young Meadowlarks is less detailed. A male acquired a song "quite dissimilar to that of a wild Meadowlark," and accompanied the performance by what Mr. Scott calls "a parade or dance, analogous to the strut of a turkey-cock." A part of the song consisted of "a silvery whistling sequence of five or six notes rather long drawn out, and given with much precision," which so resembled a part of the song of a European Blackbird confined in the same room, that it was several weeks before Mr. Scott and his assistant were able to identify the real author of the strain.

In his comment on this case Mr. Scott says: "My conclusion is that birds are influenced in their early lives very strongly by any noise that arrests their attention, even in a wild state, and that this propensity to imitate and differentiate their normal methods of song is greatly exaggerated under the artificial state wherein they live when in confinement." —J. A. A.

Scott's Ornithology of Patagonia.—The first fasciculus of the ornithological volume¹ of the Reports of the Princeton University Expeditions to

¹J. Pierpont Morgan Publication Fund | — | Reports | of the Princeton University Expeditions | to Patagonia, 1896-1899 | J. B. Hatcher in Charge | Edited by | William B. Scott | Blair Professor of Geology and Palæontology, Princeton University | Volume II | Ornithology | Part I. | Rheidæ-Spheniscidæ | By | William Earl Dodge Scott | Princeton University | associated with | R. Bowdler Sharpe | British Museum of Natural History | Princeton, N. J. | The University | Stuttgart | E. Schweizerbart'sche Verlags-Handlung (E. N ägele) | 1904.—4to, pp. 1-112. Issued July 26, 1904.